

AQUACULTURE volumes 51-75, December 1985-December 1988

PUBLICATION OVERVIEW

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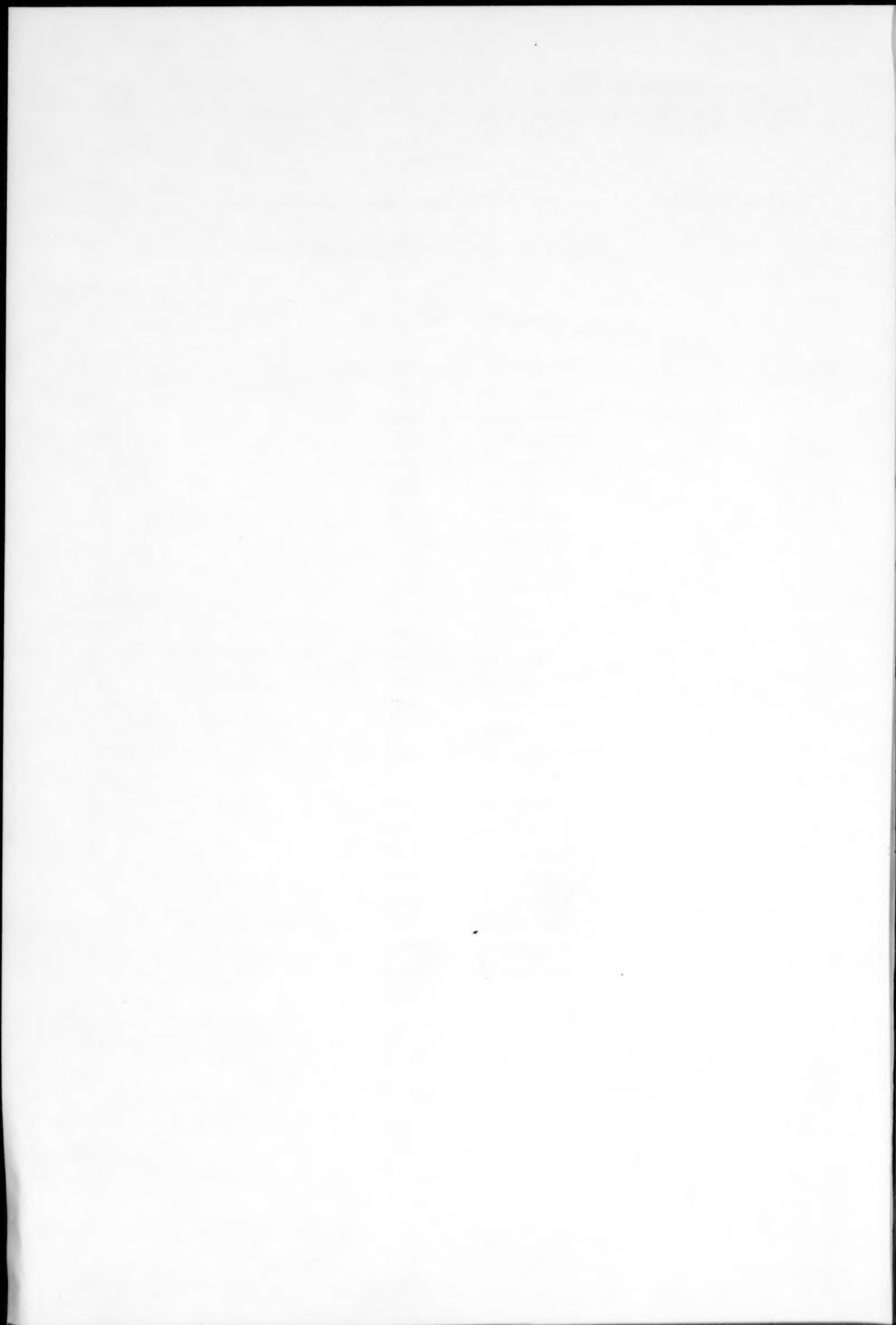
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- ## K
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- # S
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Immunological approaches to control maturation in fish. 1. Cytotoxic reactions against germ cells using monoclonal antibodies 52(1986)125
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- Spektorova, L.V., Nosova, L.P., Goronkova, O.I., Albitskaya, O.N. and Filippovskij, Y.N.
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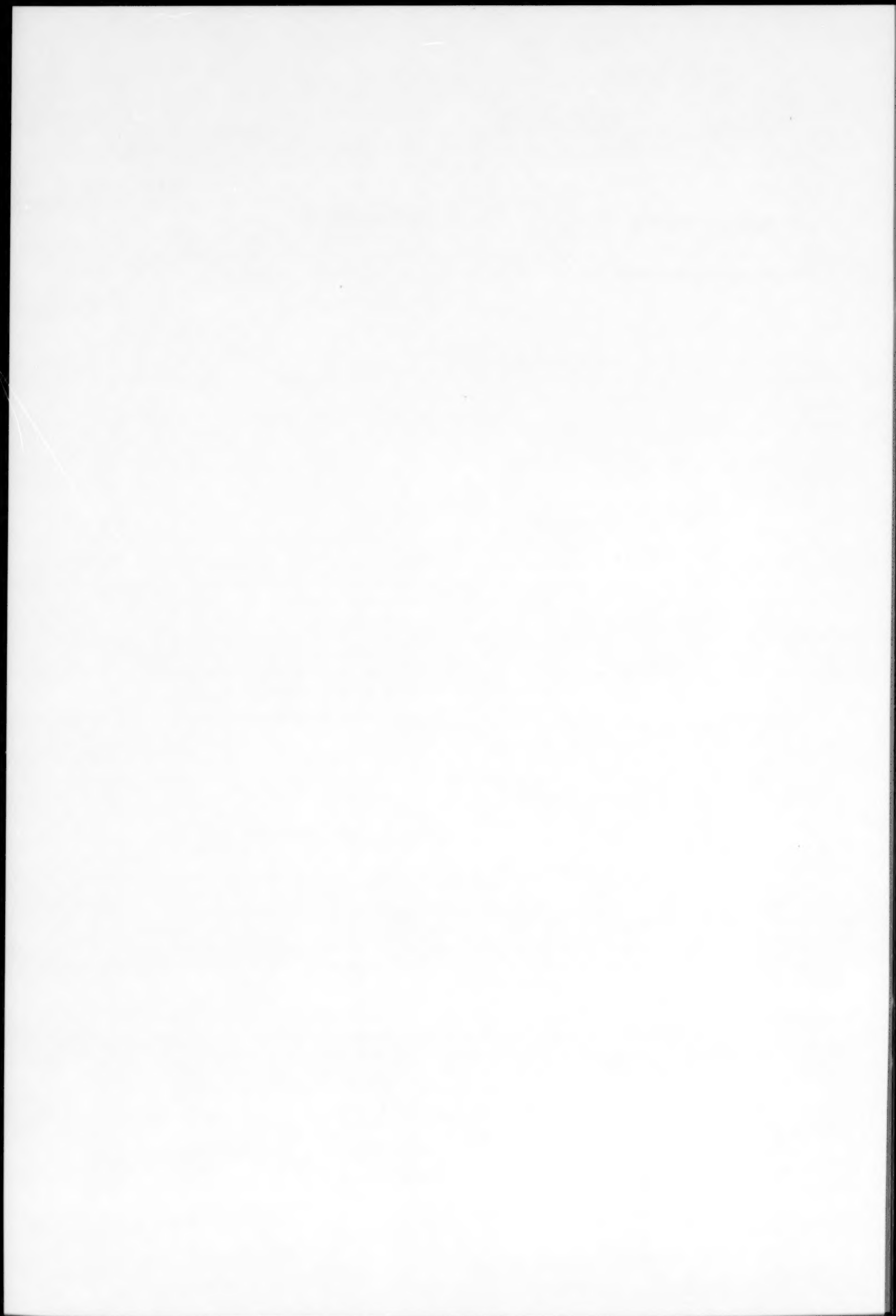
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